REMARKS

The present claims have been amended to be consistent with claims pending in a corresponding Japanese application and as restricted in that application to one species.

An International Search has provided the following documents:

(i) Document 1 (JP 01-308818A) describes an activated carbon production method for obtaining activated carbon by adding an alkali to a raw material of a plant and then heating the raw material.

(ii) Document 2 (JP 56-160312A) describes a granular activated carbon production method using an activated carbon raw material and oxides, hydrocarbons, or salts of alkali, metals or alkaline earth metals.

(iii) Document 3 (JP 07-047269A) describes activated carbon in which an ion having a strong adsorptive property to activated carbon is previously adsorbed.

(iv) Document 4 (JP 03-146412A) describes a production method of activated carbon from a young carbonaceous plant product as a starting substance.

(v) Document 5 (JP 06-127912A) describes a production method of chemical activation agent-activated carbon by adding and kneading a chemical activation agent to and with a woody raw material and heating and burning the kneaded mixture.

(vi) Document 6 (JP 2002-88373A) describes a production method of chip type charcoal.

With regards to Documents 1-5, they are directed to an activated carbon having very fine pores with a diameter of 10 to 200Å and a surface area of 500 to 2500 m^2/g. To form such fine pores in a material, it is necessary to carry out an activation treatment with a chemical agent or a gas which erodes the fibrous substances of woody materials at the time of carbonization.

In addition, the adsorption by the activated carbon is one of an interfacial phenomena and adsorption is caused by attracting molecules in a fluid such as a gas or a liquid, as a result of the

attraction of the surface of a solid (activated carbon.). In addition, the fine pores have a function of promoting a capillary phenomenon and in a case of vapor phase, a gas is condensed to become a liquid owing to the capillary phenomenon and accordingly, adsorption amount may be increased. Such adsorption by the activated carbon is generally a physical adsorption which is reversible.

The present invention provides a carbon for adsorbing anions. The adsorption is attributed to an ion exchange (chemical adsorption) and distinguishable from the above cited Documents 1-5 that rely upon a physical reversible absorption. While there may be anion-exchange resins which can adsorb anion by ion exchange, it is believed the present invention teaches a unique technique of providing an anion exchange function to carbon.

The anion-adsorptive carbon material of the present invention is not activated carbon, nor need there be any activation treatment carried out in the production of the anion-adsorptive carbon material of the present invention.

Finally, Document 6 basically describes that waste heat of a gas generating carbonation process is reused as a heat source per a step requiring heat in the chip type charcoal production.

Japanese Patent Application No. 2004-194432 on which the present application claims priority was submitted to a Japanese Examiner, with knowledge of the above-mentioned Document 1 to 6 and has been patented. The anion-adsorptive carbon material of the present invention is capable of "adsorbing anion by ion exchange," whereas the material described in Document 5 is a chemical activation agent-activated carbon and capable of "adsorbing gasoline, organic solvents, or the like."

The present invention has been accomplished "to obtain an economical, environment-friendly, and excellently anion-adsorptive material in place of activated carbon or costly anion

exchange resin which is inferior in the treatment of nitrate-nitrogen (NO_3^--N) existing in form of anion" and is applicable for adsorbing anion causing environmental pollution. Accordingly, the anion-adsorptive carbon material of the present invention does not belong to a category of "activated carbon."

In Document 5, calcium chloride is kneaded with a wood type raw material during the production of the chemical activation agent-activated carbon, and calcium chloride is used as the chemical activation agent and is washed out with hot water by a conventional method after heating and burning and consequently the activated carbon is obtained. Document 5 ultimately obtains activated carbon and is completely different from the present invention for obtaining the anion-adsorptive carbon material as described above. Further, Document 5 does not teach the function of the activated carbon according to the invention as an anion-adsorptive carbon material or of the utilization of the activated carbon for adsorbing anion.

Japanese Patent Application Nos. 2003-407705 and 2004-72362 on which the present invention also claims priority were also examined relative to the above-mentioned Documents 1 to 6.

The anion-adsorptive carbon material of the present invention is obtained by "bonding anion ion exchangeable with anion of an object to be adsorbed to the raw material (the charcoal) after carbonization." Meanwhile Document 2 is a granular activated carbon and different from the anion-adsorptive carbon material of the present invention in that the anion is not bonded.

The present invention obtains an economical, environment friendly, and excellently anion-adsorptive material in place of activated carbon or a costly anion exchange resin which is inferior in the treatment of nitrate-nitrogen ($N0_3^-$-N) existing in form of anion. To accomplish the abovementioned purpose, the anion ion exchangeable with anion of an object to be adsorbed

is bonded to the charcoal in the present invention and the obtained material can therefore adsorb anion causing the environmental pollution by ion exchange with the anion bonded to be charcoal. Accordingly, the anion-adsorptive carbon material of the first embodiment of the present invention does not belong to the category of "activated carbon."

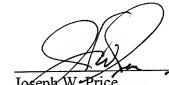
Although a plant type raw material is fired and successively brought into contact with hydrochloric acid (an acid solution) after being brought into contact with a calcium carbonate solution in Document 2, the calcium carbonate solution is used only as an activation agent and contact with hydrochloric acid is carried out for removing the calcium carbonate and granular activated carbon is obtained by riving the calcium carbonate from the plant type raw material by the hydrochloric acid. Document 2 ultimately obtains activated carbon and is completely different from the present invention obtaining an anion-adsorptive carbon material to which an anion ion exchangeable with the anion of the object to be adsorbed is bonded.

Document 2 also does not describe the function of the activated carbon as an anion-adsorptive carbon material or of the utilization of the activated carbon for adsorbing anion. Document 2 only describes granular activated carbon capable of "adsorbing uric acid and iodine" and does not teach "adsorbing anion."

If the Examiner has any questions with regards to the prosecution of this matter, the undersigned attorney can be contacted at the listed telephone number.

Very truly yours,

SNELL & WILMER L.L.P.



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